

REMARKS

Claims 1-2, 5 and 12-14 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner objects to the last clause of claim 1 having the phrase “at a maximum temperature” of 40°C to 60°C. In response, Applicant amended claims to delete “maximum” from claim 1, and cancelled claims 5 and 14. Support for heating in the range from 40°C to 60°C can be found in paragraph [0038] of Applicant’s Specification, for example. For this reason, withdrawal of the §112, first paragraph, written description requirement rejection is respectfully requested.

Claims 1-2, 5, and 12-14 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In response, Applicant amended claim 1 to delete “maximum” and clarified that the surface of the tire building drum is heated at a temperature of 40°C to 60°C in the step of heating the tire building drum. Accordingly, since the heating step of the tire building drum is now clarified, withdrawal of the § 112, second paragraph, indefiniteness rejection is respectfully requested.

Claims 1, 5, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Caretta et al. (USPN 6,409,959) taken in view of Kaido et al. (USPN 6,136,123) and at least one of Hashimura et al. (U.S. Pub. No. 2002/0033557) and Applicant’s Admitted Prior Art (AAPA). In response, Applicant amended claim 1 to clarify that the innerliner has a thickness of 80 μm to 300 μm, heating is carried out at least until the uncured tire components are applied to and radially outward of the

innerliner, and the adhesive is placed in a higher tackiness condition through heating than its tackiness condition prior to heating, and respectfully traverses the rejection.

In the present invention, the purpose of heating the building drum is not to quicken an evaporation of the solvent, but to enhance the tackiness condition of an adhesive. Accordingly, the present invention heats the surface of the building drum to a temperature in the range of 40°C to 60°C, at least until the uncured tire components are applied to the innerliner and are radially outward of the innerliner.

In contrast, the purpose of heating the toroidal support 14 in Caretta is to quicken the evaporation of the solvent. Therefore, it is not required in Caretta to heat the building drum after the solvent is evaporated. Thus, it is not required in Caretta to continue any heating until the uncured tire components are applied to the innerliner including components that are radially outward of the innerliner. Kaido, Hashimura, and the AAPA also fail to disclose or suggest this feature.

Additionally, Caretta fails to disclose or suggest an adhesive that is in a higher tackiness condition through heating than its tackiness condition prior to heating. This is because Caretta is not concerned with heating an adhesive. Kaido, Hashimura, and AAPA also fail to disclose or suggest this feature.

Since the combination of Caretta, Kaido, Hashimura, and AAPA, alone or in combination, fails to disclose or suggest heating being carried out at least until the uncured tire components are applied to and radially outward of the innerliner, or on adhesive that is in a higher tackiness condition through heating than its tackiness

condition prior to heating which causes the uncured tire components to be attached to the innerliner, for at least this reason, withdrawal of the § 103(a) rejection is respectfully requested.

Additionally, claim 1 now calls for the innerliner to have thickness of 80 μm to 300 μm . As discussed in Applicant's Specification at paragraph [0048], the thickness of the innerliner must be at least 80 μm to prevent air permeation. Also, a thickness of 300 μm or less is necessary to prevent deteriorating productivity due to the time it takes to heat the adhesive. Thus, the thickness of the innerliner is optimized to the claimed range by Applicant.

In the June 27, 2008 Office Action on page 4, the Examiner asserted with respect to previous claim 5 that particular adhesive characteristics and a liner thickness would have been selected by artisans using routine optimization. Applicant respectfully disagrees with the Examiner's statement. In order for a parameter to be manipulated, it is necessary that the parameter must first be recognized as a result-effective variable. (MPEP 2144.05). The variable must achieve a recognized result, before a determination of the optimum and workable ranges of the variable might be characterized as routine experimentation. Thus, in order for the thickness of the innerliner, which is a particular variable, to be optimized, it is necessary first to recognize that the thickness of the innerliner provides a recognized result. However, the cited prior art references and AAPA do not disclose or suggest how the thickness of the innerliner affects air permeation, or a time it takes to heat an adhesive. This is because those prior art

references are not concerned with these features. Therefore, the cited prior art references could not optimize the innerliner thickness within the range of 80 μm to 300 μm since none of the references consider the effects of air permeation or a tackiness condition of an adhesive relative to an innerliner thickness. Therefore, this variable could not be optimized, contrary to the Examiner's assertion. For this additional reason, the range of thickness of the innerliner is not obvious, and withdrawal of the §103(a) rejection of claim 1 is respectfully requested.

Claims 1, 5, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hashimura taken in view of Caretta and Kaido. Applicant traverses the rejection as it applies to amended claim 1 for the reasons recited above.

The deficiencies of Hashimura, Caretta and Kaido are noted above. Applicant reasserts the argument provided above and requests withdrawal of the §103(a) rejection for these reasons.

Claims 2, 12, and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimura taken in view of Caretta, and Kaido, and further in view of Irie (USPN 4,468,267). Applicant traverses the rejection for the reasons recited above with respect to the rejection of independent claim 1.

The deficiencies of Hashimura, Caretta, and Kaido are noted above. Irie is merely cited for teaching how shaping can be affected in a two stage process in which the carcass is formed on one drum in a first stage in a toroidally shaped assembly with the previously prepared belt/tread. Irie also fails to disclose or suggest the thickness range of

the innerliner as it applies to preventing air permeation or a time required to heat an adhesive. Accordingly, Irie provides no reason for optimizing the innerliner thickness value. Irie also fails to overcome the other deficiencies of Hashimura, Caretta, and Kaido with respect to how the heating of the tire building drum is carried out and tackiness condition of the adhesive changes. Therefore, any combination of Hashimura, Caretta, Kaido, and Irie fail to disclose or suggest the above-described features, as now recited in amended claim 1. For this reason, withdrawal of the §103(a) rejection is respectfully requested.

New claim 15 is added and further defines the adhesive as being high in cohesion and low in tackiness at room temperature, and when the surface of the tire building drum is heat at a temperature of 40°C to 60°C, the adhesive exhibits a sufficient tackiness. Applicant earnestly solicits allowance of new claim 15 based on the features recited in this claim, and also for the reasons recited above with respect to the rejection of independent claim 1.


For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely.

The Commissioner is hereby authorized to charge any additional fees which may be required to this Application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
Joseph P. Fox
Registration No. 41,760

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300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
(312) 360-0080

Customer No. 24978